

REMARKS

The present amendment is submitted in response to the Office Action dated August 22, 2008, which set a three-month period for response, making this amendment due by November 22, 2008.

Claims 1, 3, 4, 6-12, and 15-19 are pending in this application.

In the Office Action, the amendment filed July 10, 2008 was objected to on grounds it introduced new matter, specifically, Figs. 5 and 6. Claims 9 and 10 were objected to for informalities. Claims 1-3, 7, 8, 11 and 13-19 were rejected under 35 U.S.C. 102(b) as being anticipated by GB 117507 to Greenwood. Claims 1, 3, 4, and 8 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,167,691 to Nelson. Claims 1, 4, 6, 9, and 10 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,202,768 to Harvey. Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of U.S. Patent No. 6,686,742 to Candy. Claims 9 and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwood in view of U.S. Patent No. 4,486,712 to Weber. Claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson in view of Candy and further in view of Weber.

In the present amendment, previously submitted Figs. 5 and 6 have been canceled. Claims 13 and 14 also have been canceled.

Regarding the objections to claim 9, claim 9 was amended to depend from claim 1.

With regard to the objections to claim 10, claim 10 was amended to depend from claim 9. The objection to claim 10 that the phrase “the at least one transmit coil” lacks antecedent basis is not understood, since the “at least one transmit coil” is not defined in claim 10. This term is defined correctly in claim 11, without the preceding article “the”, as it is the first recitation of the element. Turning now to the substantive rejections of the claims, claim 1 has been amended to clarify that the system has **only one** transmit coil. Claim 1 as amended further clarifies that the connected electrical conductor modules are coupled *inductively* with the transmit coil.

The device of Greenwood requires at least a second transmit coil, which is not necessary for measuring but adjustment or calibration. Greenwood integrates both of these transmit coils in the measuring head. In Greenwood, the receive coils are not couple inductively with the transmit coils, but instead are arranged remotely, in fact, spaced substantially far, from the transmit coils in order to produced a decoupled arrangement between the transmit coil and the receiving coils.

The Greenwood system uses an equalized/balanced sensor head, while the present invention provides an inductive coupling of the transmit, receive and compensation coils.

A further inventive aspect of the present invention which defines the invention over the cited art is that the compensation modules used in the device are integrated in the sensor head itself.

As the Applicants explained in their last response, Greenwood does not disclose or suggest several of the features of claim 1 as previously amended and as clarified in this amendment. In particular, with the present invention, the number of turns of the at least one receive coil (112, 114; 212, 214) is variable by connecting or disconnecting electrical conductor modules, and wherein connected electrical conductor modules are coupled with the transmit coil. In addition, the connected electrical conductor modules are coupled inductively with the transmit coil.

This inductive coupling between the transmit coil, receive coil and compensation coil is an important difference between Greenwood and the present invention. In Greenwood's disclosure, it is explicitly stated that the receive coils, in particular, the additionally connected receive coils, are not coupled inductively with the transmit coils, but on the contrary, are arranged to be spaced quite remotely from the transmit coils so that no coupling can occur. The Examiner's attention is directed to Greenwood's Fig. 5. The coils a and b are components of the seeker head 20 of the Greenwood device, which are arranged at a substantial distance from the transmit coils 5, and 6.

In light of the clear disclosure of Greenwood, in particular, Fig. 5, the Applicant submit that the Examiner's analysis with regard to the coupling of the receive coils is erroneous.

The Applicants also must again point out that with the present invention as defined in claim 1, the number of turns of the **receive** turn system can be varied, and not in the transmit coil, as is the case in Greenwood.

In comparison to balancing/compensation methods which work on the excited side of the detector, the claimed circuit realization on the receive side is much simpler and cost-effective, since for example, relatively high-resistive switching means can be used, because in the receive coils, only very minimal currents flow, compared to the excited coils.

With regard to the Harvey and Nelson references, the Applicants note that these references likewise fail to disclose the use of only one transmit coil and that the connected electrical conductor modules are coupled inductively with the transmit coil, as defined in amended claim 1.

Because amended claim 1 includes features that are neither disclosed nor suggested by Greenwood, Harvey or Nelson, the rejections under Section 102 must be withdrawn. MPEP section 2131 states that to anticipate a claim a reference must teach every element of the claim in as complete detail as is contained in the Applicant's claim. Likewise, MPEP section 2143.03 requires that all of the Applicant's claim limitations must be taught or suggested. Here, these standards have not been met.

The application in its amended state is believed to be in condition for allowance. Action to this end is courteously solicited. However, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,

A handwritten signature in black ink, consisting of a stylized 'M' followed by a horizontal line.

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